FEEDING THE MULTITUDES – HOW TO CONNECT WITH CUSTOMERS

By Elaine T. Cullen
Spokane Research Laboratory, National Institute for Occupational Safety and Health
Spokane, Washington

ABSTRACT

Educating the public about the role of mining and minerals can be a challenge. While it sometimes seems that little is being done to counteract negative publicity, there are many exciting things happening across the country that are helping meet this challenge. This paper will discuss existing minerals education activities and will provide tips for developing successful programs for a variety of groups, from students to industry to minerals educators themselves. The paper will also include an overview of the 9th annual National Minerals Education Conference held in July 2000 in Spokane, WA.

INTRODUCTION

It is generally agreed in the mining industry that the public does not have a good understanding of the role played by minerals in society and that the public generally has a negative opinion of the industry as a whole. Companies agree in principle that education is an answer, but often there is not a clear, comprehensive plan on how to educate the public effectively. Practitioners argue about where the focus should be; K-12 students, the media, "opinion leaders," the public, and the industry itself have all been mentioned as the most appropriate target. In fact, there are many excellent programs to address each of these targets, but the most successful ones answer a fairly simple question: "Why should these people care about mining?"

There have been many attempts to coalesce educational activities in the country currently supported by the industry. The National Mining Association (NMA) has taken a leadership role in this work, particularly with its national Excellence in Education Awards that recognize outstanding success and its support for national programs. The GEM Committee of SME has been a catalyst for many national efforts, such as the Minerals Coalition booths at national science teachers conventions, as well as local conventions planned and carried out by local chapters. Mining associations have been excellent supporters, with activities as varied as the 6-day classes taught in Arizona for K-12 teachers to the Taste of Colorado and other fairs around the country to the Model Mine project in the Pacific Northwest. Organizations like the National Energy Foundation (NEF) and the Minerals Information Institute (MII) play a very important role in developing curricular materials and disseminating them to educators. Government personnel at federal, state and local levels have all organized, participated in, or supported educational activities. All of these are important pieces in the puzzle. Before criticizing the industry for not doing enough to combat its perceived negative image, it is necessary to see exactly what is going on. Examples in the following section illustrate the breadth and depth of these efforts. They are not a comprehensive overview, but rather should be understood as good ideas for effective education.

Outside Activities and Festivals

Nearly every region with any kind of mining activity has festivals that include education efforts by the minerals industry.

- The Liberty Lake Water Festival. This annual festival brings over 150 4th-grade students together at a near-by lake to learn about water. Topics include what is an aquifer, how lakes are formed, what water is used for, and our dependence on water. Mining people set up gold panning activities and explain how prospectors used water to pan for gold, what specific gravity has to do with panning, and how gold is used in modern society. Government scientists, industry personnel, and educators work together to make this week-long festival a reality.

- The Model Mine. This 2-day event takes place near an aggregate operation. Stations are set up where groups of students, parents, and teachers learn about such things as uses of minerals, the rock cycle, extraction of minerals from rocks, physical geology, careers in mining, mine safety with an emphasis on abandoned mines, and finally, mining and processing of aggregates. Students pass through the stations and get a chance to climb on a big haulage truck, take a bus ride through the pit itself, and see how asphalt is produced.

"Munchkin miner" at Model Mine

- Outside Education Days. The large number of natural lakes and forests in the Pacific Northwest create the ideal location for overnight campouts at which to teach about the natural sciences. Local 6th graders have the

opportunity to participate in some form of this activity, which includes talks and demonstrations by earth and life scientists. Students learn about habitats, forests, water, and physical geology, and why the land looks the way it does. Workbooks have been developed to encourage active learning and include many hands-on discovery activities. Scientists who help with these activities have gathered an impressive number of "Did you know..." facts to capture the interest of the students. In many schools, the campouts are the culmination of a year-long science program and are extremely popular with students, teachers, and parents alike.

• Pioneer Encampment. Most of the western United States was originally settled by people involved in natural resource activities—mining, agriculture, and logging. The resource-rich West attracted hundreds of thousands of adventurers, creating a legacy of historic tales and characters. The Pioneer Encampment, set up at a local school, uses history to reconnect students to the area and its natural resources heritage. Gold panning and a mining camp are very popular attractions for students and adults.

Old time mining camp at pioneer encampment

Educational Organizations

It is generally agreed in the minerals industry that K-12 education is the area where most of the efforts in outreach have been concentrated. There are many successful organizations, including NEF and MII, the loosely organized National Minerals Coalition, and GEM, to name a few. There are many local groups as well, including almost every mining association and their education programs or foundations. Most regions have some version of a Partners in Education program, where businesses partner with local schools to assist in the education process, and there are many state-wide programs. For example, the Washington State Partnership for Learning seeks to promote understanding and support for raising education standards.

Another organization that should stand as a model for the extractive industries is the Northwest Natural Resources Institute (NNRI), a nonprofit educational organization encompassing timber, mining, water, and agriculture. This collaborative group has sponsored and organized numerous educational activities in the region, all with the purpose of expanding the public's knowledge of the role of natural resources in daily lives. NNRI sponsors week-long teachers' workshops, activities, and events at the county fair centered on natural resources; presentations at the local Children's Museum; and the highly successful Model Farm, Model Mine, Model Forest, and Water festivals where students visit actual sites and learn from professionals in these industries.

Career Days and Science Days

It is quite common for mining people to receive their first invitation to speak about their work at their children's school career days. And it is equally common that these people don't know what to talk about. Career days can be an excellent opportunity to educate and inform, but it is critical that speakers remember to whom they are talking. Kids have different interests than adults do, and they usually want to hear such things as whether or not they will get to use a computer in this job, how big the trucks really are, or how much money they'll make. They aren't too interested in technical details, but enjoy getting their hands on things. Bringing "tools of the trade" to the presentation can be very effective. These could include mineral samples, a global positioning unit, or even, if possible, a haulage truck. Many of the nation's mining schools are having a hard time attracting students. If the industry waits until students are seniors in high school, they may have lost the opportunity to convince these students that careers in mining can be fun and profitable, with a lot of opportunities to travel the world.

Science festival

Science fairs are quite common in the U.S. school system. While they do a great job of focusing students' efforts, at least for a short time, on science, the children who take home the prizes are those who usually have access to computers, materials, and, unfortunately, scientifically literate parents. Children from disadvantaged families rarely have the resources or support to compete. Some areas have decided, therefore, to put on science

festivals, where scientists are brought in to lead students through a variety of science adventures tailored to specific age levels. Hands-on activities such as making a rock and mineral collection, extracting copper from ore, or learning what math has to do with surveying get kids excited about *doing* science, regardless of their economic situations. With the entire school turned into an impromptu science lab for the day, kids choose from among dozens of science adventures and have fun while learning.

Teacher Education

Many areas of the country sponsor teachers' workshops during the summer. These multiday workshops generally offer the re-certification credits or continuing education credits that teachers are required to earn during their careers and expose teachers at K-12 levels to a variety of hands-on earth science activities that can be taken back to the classroom. Because doing hands-on science requires materials, these workshops usually include a lot of free classroom materials, from rock and mineral samples to posters, videos, books, and testing equipment. This is one of the areas of education that the industry is doing right, if responses to the workshops can be used as an evaluative tool. After being guided through activities with experienced people, many teachers feel much more comfortable in planning similar activities for their own classrooms.

Teachers' workshops will likely continue to play an important part in the minerals education field. Across the country, business and academia alike are calling for

Teachers' workshops

tougher standards for education. Students are being held responsible for learning. Mandatory graduation standards are being developed in most states, and teachers are struggling to find ways to prepare their students to meet them. Earth and physical science teachers are asking for help, and the minerals industry is responding with its workshops. In spite of the popularity of these events, how-ever, it is still remedial education. The tougher battle will be fought in changing the way teachers are prepared at the university level. This is a challenge that has not yet been addressed by the minerals or natural resources industries.

NATIONAL MINERALS EDUCATION CONFERENCE

Ten years ago, a group of concerned industry people put together a plan to begin to draw together the many excellent educational activities that were happening around the country. It was believed that there would be a definite benefit in gathering together these practitioners and allowing them the time and opportunity to share ideas, brainstorm solutions, and educate each other on what they were doing. The 1991 National Minerals Education Conference (NMEC) was held in Salt Lake City, and for the first time, minerals educators came together to share resources, problems, and plans. NMEC has grown and evolved over the years. It was decided, for example, that it would be a good thing to have a minimum number of teachers to provide feedback on new ideas and help guide future planning. Participation has fluctuated, as the industry moved through tough times, with numbers ranging from 70 to 140. The commitment to use this venue to communicate, share, and learn, however, has remained strong.

The 9th Annual Minerals Education Conference was held in Spokane in July 2000 and is an example of what is successful about this type of gathering. A planning team was formed in December with the Spokane Research Laboratory of the National Institute for Occupational Safety and Health and the Northwest Mining Association taking lead roles. A group of team leaders was put together to handle such things as fund raising, publicity, program, logistics, tours, door prizes, and exhibits. Face-to-face meetings were kept to a minimum, but the Internet was heavily used to communicate between and among the teams. Several goals were established.

- The conference would be self-supporting…no red ink.

- A strong program with multiple tracks was expected to attract participants.

- The conference would be international to mirror the global nature of the industry.

- No more than 25% of the participants would be teachers. Industry, higher education, government, and associations were the primary targets.

- The conference would include representatives from as many of the different segments of the mining industry as possible.

- The conference would be fun, both for those who put it on and for those who attended.

NRMC tour

The Spokane conference was similar to several of the preceding minerals education conferences in that it offered many options for attendees. These included a hands-on activity-based day for educators and those who wanted to learn more about experiential learning; a "Living Catalogue of Resources" for those new to minerals education who were looking for ideas, sources of materials, or other minerals education providers; and information for the old pros, those people who had been involved in this type of education for some time and were interested in more strategic issues. The Spokane conference also included tours of local mines, an all-day "Geology of the Northwest" tour, and an all-day tour entitled "An Irreverent Look at the History of Mining in the West." Those participants who did not go on a tour were given the opportunity to see what's new and cool in minerals education at roundtable sessions. Other sessions dealt with effective environmental education and with educating the community.

The Spokane conference was an outstanding success. With nearly 130 attendees, the conference was larger than anticipated, and both new and experienced people participated. In addition, the planning team learned some very important lessons.

• Make sure there is something for everyone. Passion is the glue that holds minerals education together, but individuals have different needs and interests, so prepare a buffet, not a one-course meal.

• Involve as many people as possible. This conference had over 70 speakers or presenters. Many of them participated in the 16 round table sessions or in the 17 Living Catalogue sessions, but it is much easier for people to commit to attending if they have an active part in the production.

• Plan! A well-organized, responsible team will make it much easier to succeed and will ensure that the details are taken care of before they become problems. Giving many people a small piece of the responsibility also ensures that no one is overwhelmed.

• Advertise. The people involved in minerals education often do it in a volunteer capacity, rather than as a formal part of their job. These people will not necessarily find out about the conference if creative means to get information have not been used. Advertise early and often and employ a wide range of communication tools.

• Include fun activities. These are team-building exercises and can include such things as evening cruises, a barbecue in the park, or even enough time to play. If a shared passion for minerals education is the glue that holds this effort together, then allowing time for that glue to set up and for coalitions to build is a crucial part of the conference.

• It is much easier to raise money if the overall amount is broken down into "sponsorable events," such as a breakfast, a tour bus, box lunches for the tours, or a hosted reception. Sponsors should be visibly and repeatedly thanked for their support with signs and announcements.

• It will be much simpler for succeeding groups to put a minerals education conference together if there is a repository of information from former conferences. Contact lists, presenter lists, donor lists, programs, etc., all provide very valuable information to a new team that is basically starting out cold.

• Extras, such as door prizes and exhibits of what's available, make the conference much more special. An obvious group of potential exhibitors would be the winners of the National Mining Association's Excellence in Education Awards. These people are justifiably proud of their efforts and can provide excellent ideas to other participants.

NMEC has changed and grown over the years, but it remains the only primary opportunity for people involved in minerals education to come together to discuss their successes and challenges, to meet others involved in similar work, to re-energize their efforts, and to get new ideas about how to improve their programs. There are many teachers workshops every year, but only one conference for those who teach the teachers. This is an

NMEC dinner cruise

effort that has shown its usefulness to the industry, and one that deserves support.

CONCLUSION

Educating the public can be a daunting task. The public has many faces, from school-age children to elected officials, and each segment of the population requires its own targeted message. There are currently many excellent outreach or education programs in the country with dedicated individuals working to enlighten the masses. Government agencies such as USGS, NIOSH, and MSHA; mining associations such as the National Mining Association, Northwest Mining Association and Arizona Mining Association; societies such as SME, GEM, and the Mining and Metallurgical Society of America; and nonprofit organizations such as NNRI, NEF, and MII are all working to overcome deep misunderstandings about the mining industry. National programs like the National Science Teachers Association conventions and the National Minerals Education Conference allow access to key individuals, as well as large numbers of science educators, and provide forums for discussing issues and getting information into the hands of those who need it.

Regardless of the individual target or the specific message, whether warning children of the dangers of abandoned mines or assisting teachers in building an earth science curriculum, the question "Why should they care?" must be answered. Once a personal connection to minerals, rocks, and mining has been established, customers will be much more open to learning and much less willing to listen to negative propaganda about mining. This is a simple concept, but one that will affect the future of this industry.